Herr Leonhardi writes:—"Among the most noteworthy of the discoveries of Spencer and Gillen was the idea that each man is the reincarnation of a totemic ancestor, and that after death, each soul returns to its totem centre, where the spirit individuals spend the time between the two incarnations. These child-germs enter the women, conception by means of men being unknown. In the neighbourhood of whichever totem centre a woman first feels pregnant, that becomes the totem of the child. I was not a little astonished when Herr Strehlow wrote that he could not find any reincarnation theory among the blacks, and that it must be a misunderstanding; but Spencer and Gillen are so positive, 'In every tribe without exception the belief in reincarnation is universal.'" Strehlow writes:—"I have made careful inquiries concerning the points raised. I have inquired of different blacks at different times, among others of three witch doctors, who are regarded as guardians of tradition, who grew up in heathendom. They all declare these ideas to be wrong. In different places there are numerous *ratapa* (origins of men, unborn men, who have body and soul, but are invisible). The male origins are in rocks, trees, or in the mistletoe growing on the latter; the female mostly in clefts in rocks. Each *ratapa* belongs to a certain totem, and the *ratapas* of the same totem are collected in one place. This was caused by the totem-ancestors 'getting tired' of their long wandering, and their bodies changed into rocks, trees, &c., and their souls collected in an underground cave. The child-germs are in these rocks and trees, and they go forth thence. If now a woman, who conceives, passes such a mistletoe branch or rock cleft, a *ratapa* enters as a grown youth or girl with body and soul, into her body, causing pains. The *ratapa* grows smaller in the woman's body until later it is born as a child. If an *apma* (snake) *ratapa* enters into a woman, the child belongs to the *apma* totem.

"When a man dies his soul (*etana*) goes, not to the totem centre, but to the island of the dead, where it remains for a time. Eventually it returns to its earlier dwelling place on the earth and says to its former friends, 'Be careful, lest you meet such a fate as mine!' If the dead man has left behind on the earth a small child, his soul enters into it and lives there until the child has grown up and has a beard, when the father's soul departs again, or it enters into his grandson in the same manner. It is finally destroyed by a flash of lightning. Thus one cannot speak of a reincarnation, but only of the temporary dwelling of the soul of the father or grandfather in his son or grandson." Strehlow assures Leonhardi that all the Arunta have the same belief.

"There are other means by which the children enter the women. The *atua ngautja* (souls of totem ancestors dwelling in underground caves) can also enter into the women, if they wish to return to this earth, though their final fate is utter annihilation. A child can enter its mother in animal or plant form. If a woman feels the first intimations of pregnancy immediately after seeing a kangaroo, which runs off and disappears, there is no doubt but that her child will be a kangaroo child.

"Each individual has relationship with two totems, he belongs to the one by birth, or rather by conception, this botem he calls *runga*. The other totem belongs to him, is bound up with him, has communion (*altja*) with him, so he calls it *altjira*. Thus the totem animal or plant of his mother which is forbidden to her to eat is his *altjira*, which belongs to him, of which he can eat as he will. A man named Ebalanga belongs to the iguana totem, so all iguanas are regarded as his friends, or even as his relations, for according to the ideas of the blacks he is himself an iguana. He may kill iguanas but sparingly, and eat only the tail and legs. The wild duck is his mother's totem, this is bound up with him, is his guardian, on whose flesh he feeds." As Leonhardi points out, "the great interest in these new facts is that we have here clearly a totem inherited through the mother. It may be that here is preserved a relic of earlier times, when the totem was inherited directly from the mother, as among so many other Australian tribes, and that the peculiar belief about the conception of children was a later development. As to the primitiveness of the Arunta and their neighbours, there has been much discussion, and the above facts may give new aspects to the controversy."

A word of warning seems desirable. The Arunta investigated by Herr Strehlow appear to have been Christianised, and some of their statements may have been influenced by the new teaching; also there may be slightly different beliefs among various sections of the Arunta. Doubtless these points will be fully discussed in the final publication. A. C. H.

## UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

CAMBRIDGE.—At the request of the special board for biology and geology, the general board is proposing to establish a demonstratorship in petrology. This demonstrator will be paid by fees, and not directly by the University.

The same board has also received a communication from the special board for biology and geology requesting that the title "Readership in Animal Morphology" (recently vacated by the election of Mr. Adam Sedgwick as professor of zoology) be changed to "Readership in Zoology." This will widen the subject of the readership so that it will include such subjects as variation and heredity, and will enable the University to provide for the teaching of these subjects, which for the last few years has been given by Mr. Bateson as deputy for the professor of zoology. The general board proposes that the annual stipend attached to the readership should be 100*l*., to be paid from a common university fund, and that the readership be attached to the board for biology and geology.

The Senate has sanctioned an alteration to the Previous Examination of some moment, although it excited no comment and little interest in the University. In future it will be possible for a candidate to take a paper on elementary heat and chemistry as an alternative to the papers on Paley's "Evidences" and elementary logic. In the same part of the examination a single combined paper on arithmetic and algebra will in future be set instead of the separate papers on those subjects.

There was a discussion last week on the proposal of the medical board to institute a third first M.B. Examination (chemistry, physics, and elementary biology) by holding one at the commencement of the October term. The proposal met with little opposition, though it was pointed out that the time of year was rather inconvenient. Supporters of the scheme hope that in time the October examination will largely take the place of the one held at present in December, and that the latter will ultimately disappear.

The electors to the Isaac Newton studentship give notice that the election to a studentship will be held in the Lent term, 1908. The studentships are for the encouragement of research and study in astronomy. Persons eligible are members of the University who have been admitted to the degree of Bachelor of Arts, and who shall be under the age of twenty-five on January 21, 1908. The studentship is usually of the value of 200*l*. per annum.

PROF. W. F. M. GOSS, one of the leading American authorities on railway engineering, has been appointed Dean of the college of engineering of the University of Illinois.

THE Civil Service Commissioners announce, in regard to open competitive examinations for clerkships in the Upper Division of the Civil Service, that, after next year, geography, treated scientifically, will be added to the list of subjects included under the head natural science of which four may be taken up.

A COURSE of eight lectures on the function of the mineral constituents of the soil in the nutrition of plants, by Mr. A. D. Hall, will be given, as part of the advanced lectures in botany of the University of London, in the lecture room of the Chelsea Physic Garden on Mondays and Thursdays, beginning on November 11 at 5 p.m. Dr. O. Rosenheim will give a course of three advanced lectures in physiology

on the borderland of animal and vegetable chemistry (proteins, lecithins, pigments, &c.) at King's College on Mondays, beginning on November 25, at 4.30 p.m.

THE Board of Education, South Kensington, has just issued the following list of successful candidates this year for Royal exhibitions, national scholarships, and free studentships (science):—*Royal exhibitions:* W. F. Frew, Plymouth; G. E. Morgan, Portsmouth; E. Grigg, Southsea; E. A. Steed, Devonport; W. E. Curtis, London; H. Carter, Triangle, Halifax; H. W. Turner, Portsmouth. *National scholarships for mechanics (Group A):* A. W. Judge, Portsmouth; A. Regnauld, London; F. R. Rogers, Devonport; C. Bartlett, Plymouth; F. H. G. Marks, Plymouth; J. H. Thomas, Ovenden, Halifax. *Free studentships for mechanics (Group A):* S. Ll. Symns, London; F. A. Bumpus, Birmingham; R. G. M. Frost, Plymouth; E. W. Stedman, Sheerness. *National scholarships for physics (Group B):* A. G. Tarrant, London; J. Hill, Glasgow; J. Macpherson, Manchester; A. Holmes, Gateshead; W. White, Glasgow. *Free studentship for physics (Group B):* W. C. Simmons, Southampton. *National scholarships for chemistry (Group C):* S. R. Illingworth, Shipley; H. Griffiths, Middlesbrough; A. T. Eggington, Ibstock, Leicester; A. Caruth, Birkenhead; L. W. Burridge, London. *Free studentship for chemistry (Group C):* F. A. Knott, London. *National scholarships for biology (Group D):* E. Bateson, Bradford, Yorks; J. Sharpe, Burnley; W. Rushton, Burnley. *National scholarships for geology (Group E):* C. H. Cunnington, London; T. Eastwood, Burnley; E. J. Wayland, London.

MACDONALD COLLEGE, Quebec, established and endowed by Sir William Macdonald, of Montreal, was opened to students on November 7. The object of the founder is the advancement of education, the carrying on of research, the spreading of knowledge likely to benefit rural districts, and the training of teachers for rural schools. From an article in the *Times* of November 9, we learn that the college property comprises 561 acres, and has been divided into the campus of 74 acres, where the buildings are located, with demonstration plots for grasses and flowers; a farm of 100 acres for horticulture and poultry keeping; and a live-stock and grain farm of 387 acres. The buildings have been planned in accordance with the most modern scientific principles. The main building includes departments for nature-study and household science, both with appropriate laboratories. Near the main building are buildings for biology and chemistry, each furnished with laboratories and lecture rooms. The main agricultural building contains greenhouses and laboratories of the live-stock farm, dairy, and horticulture department, the farm machinery hall, and a pavilion for live-stock judging. A poultry building with an annexed brooder house are adjacent to the poultry yards, and in addition there is provision for many other agricultural activities. The cost of the buildings and equipment exceeds 300,000*l.*, and, in addition, Sir William Macdonald has provided a permanent endowment of 400,000*l.* The college is incorporated with McGill University, and Dr. James W. Robertson, C.M.G., is the principal. The college includes a school for teachers, a school of household science, and a school of agriculture. Tuition will be free to residents in the Province of Quebec. There will be a small laboratory fee not exceeding 1*l.* to cover the actual cost of the materials used, and a contingency fee to cover possible breakages, penalties, and other demands. Board, room, and washing will be furnished for 13*s.* per week each, where two students occupy one room, and, in the case of students occupying single rooms, for 14*s.*

AT the Mansion House, London, a meeting was held on November 6 in furtherance of the interests of the permanent buildings fund of the University College of North Wales, Bangor. At the opening of the proceedings Lord Kenyon read a letter from the Prince of Wales, who, as Chancellor of the University of Wales, heartily wished success to the meeting, and pointed out that since the question of higher education in Wales was taken up by the Government twenty-seven years ago, it has been zealously supported by the people of the Principality. They have recognised it as an essential to their progress and prosperity, and this fresh effort should help Wales to render the highest services to the kingdom and Empire. A striking proof of this spirit is to be found in the support received from all classes to the original scheme for the college, when 30,000*l.* was raised by 8000 subscribers, of whom only sixty-eight contributed sums of more than 100*l.* and upwards. This spirit has been equally conspicuous in the case of the present appeal, towards which 30,000*l.* has been collected. During the last twenty-three years the successful and steadily increasing work of the college has been carried on in temporary buildings; but from the outset it was the deliberate policy of the college to provide a first-rate staff, and to postpone the question of buildings until the character of the institution had been determined by their efforts. When the Prince of Wales visited Bangor five years ago, the first step towards providing buildings had just been completed by the munificent gift of a site of the value of 15,000*l.* from the corporation. The laying of the foundation-stone by the King this year has now happily inaugurated the actual work of construction. The present intention is to endeavour to complete the arts and administrative section, but it is hoped that in the near future means may be forthcoming to erect the buildings for the science departments, the work of which must for the present be carried on in the old laboratories. A further contribution of 100*l.* towards the building fund was also received from the Prince of Wales, and announced at the meeting. In addressing the meeting, Lord Kenyon referred to the exhaustion of the resources of North Wales and to the depressed state of the slate trade, in connection with which reference was made to the large amount of support the college had received from the ordinary working quarrymen. Sir Harry Reichel, the principal, gave some interesting statistics showing the same spirit of spontaneous effort in the interests of the Welsh university movement on the part of the middle and working classes of North Wales that was referred to in last week's NATURE in connection with the visit of the Chancellor of the Exchequer to Aberystwyth. It was announced that 11,800*l.* had already been subscribed in London alone. It may be interesting to mention that the progress of the college and its influence on the schools of Wales is shown quite as much in the higher standard of attainment of the students as in the increase in numbers. The unmatriculated students, who used to form a large percentage, have now dwindled down to the vanishing point.

## SOCIETIES AND ACADEMIES.

### LONDON.

**Royal Microscopical Society,** October 16.—Dr. J. W. H. Eyre, vice-president, in the chair.—Mr. **Taverner** exhibited a number of stereo-photomicrographs of water mites, taken with a stop behind the objective, as described before a previous meeting. They were taken in their natural colours by the Sanger Shepherd three-colour process.—Ghost images in the secondaries of *Coscinodiscus asteromphalus,* with some remarks on the highest useful ratio of magnifying power to aperture: A. A. C. E. **Merlin.** In an experiment suggested by some remarks of Mr. Nelson, the author was able to distinguish perfectly well-defined ghost images of the condenser stop in many of the cap perforations of *Coscinodiscus asteromphalus.* He used a selected Zeiss 3 mm. apochromat of N.A. 1·42 and a 40 ocular in conjunction with a Powell's dry apochromatic substage condenser. The exact size of the perforations was measured and found to be 1/83,300-inch. —A new prismatic ocular: A. A. C. E. **Merlin.** The author found that prolonged observations with the microscope in an upright position entailed great fatigue to the eye, and it occurred to him that by means of a properly designed prism a comfortable position might be secured. He obtained the assistance of Mr. E. M. Nelson, who computed a prism of the kind required, a diagram of which was drawn on the blackboard. It was constructed for the author by Carl Zeiss, and has proved efficient and satisfactory in use.—A new 1/6-inch semi-apochromatic objective: E. M. **Nelson.** The objective had a working distance of 1 mm.; its N.A. was 0·74, and its initial power 60.—Systematic exposure with transmitted light in photomicrography: A. **Letherby.**